

**Remarks**

By the present amendment, claims 18 and 19 have been amended to comply with the restriction requirement and without prejudice to, or disclaimer of, the underlying subject matter. New claims 24-29 have been added. Support for these amendments and new claims may be found in the original claims and throughout the specification, *e.g.*, original claims 18 and 19 and Table A. No new matter has been introduced by these amendments. As such, with this response, claims 18-29 are now pending.

In the Office Action dated June 21, 2002, the Examiner required restriction under 35 U.S.C. § 121:

The Examiner asserted that “[c]laim 18 claims a computer readable medium having recorded thereon at least 100 of the polymorphisms set forth in Table A, and independent claim 19 recites a collection of isolated nucleic acids capable of detecting at least 25 distinct polymorphisms from table A.” *Office Action at page 2.* The Examiner further asserted that “[t]able A recites at least 56,566 different polymorphisms.” *Id.* The Examiner further asserted that “[t]he number of combinations of 100 polymorphisms from within table A is extremely large, and the number of combinations of 25 polymorphisms from within table A is larger (in the order of millions of possibilities).” *Id.* The Examiner claimed that “[e]ach of these potential groups is patentably distinct from one another because they have distinct required elements, that is they have distinct required sets of polymorphisms.” *Id.* The Examiner required that “Applicants must further elect a set of 25 polymorphisms from Table A for examination in claims 19-23. Applicants must further elect a set of 100 polymorphism from table A. The set of 100 polymorphisms must contain the previously elected 25 polymorphisms. Applicant should

identity the location of the elected polymorphism in Table A.” *Id.*

Applicants respectfully traverse the restriction requirement, and provisionally elect polymorphisms 466799 (which is the 21<sup>st</sup> polymorphism of SEQ NUM 1079), 471736 (which is the 5<sup>th</sup> polymorphism of SEQ NUM 1022), 459697, 459698, 459699, 459700, 459701, 445015, 459702, 459703, 445016, 445017, 461062, 447523, 461063, 447524, 447525, 461064, 461065, 447526, 461066, 450823, 450824, 450825, and 450826, (which are the first 23 polymorphisms listed in Table A) from Table A for examination in claims 19-23 and polymorphisms 466799 (which is the 21<sup>st</sup> polymorphism of SEQ NUM 1079), 471736 (which is the 5<sup>th</sup> polymorphism of SEQ NUM 1022), 459697, 459698, 459699, 459700, 459701, 445015, 459702, 459703, 445016, 445017, 461062, 447523, 461063, 447524, 447525, 461064, 461065, 447526, 461066, 450823, 450824, 450825, 450826, 428620, 450827, 462117, 450828, 462118, 428621, 428622, 428623, 450829, 462119, 428624, 428625, 428626, 450830, 450831, 450832, 450833, 448562, 424491, 424492, 424493, 424494, 424495, 424496, 424497, 448563, 448564, 424498, 424499, 448565, 461975, 424500, 424501, 424502, 424503, 448566, 448567, 448568, 448569, 448570, 424504, 424505, 424506, 424507, 424508, 424509, 424510, 424511, 448571, 424512, 424513, 424514, 424515, 448572, 426007, 426008, 426009, 426010, 449396, 462027, 449397, 449398, 426011, 426012, 449399, 449400, 462028, 449401, 462029, 449402, 426013, 426014, 426015, 426016, and 426017 (which are the first 98 polymorphisms listed in Table A) from Table A for examination in claim 18.

However, Applicants submit that the Office has not proven that an undue burden would be imposed by search and examination of the entire application. Applicants submit that the complete examination of the application would be handled most expeditiously by treating all of

the pending claims as a single entity. As Section 803 of the MPEP directs, "[i]f the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to distinct or independent inventions." Applicants respectfully submit that the Examiner has not shown that a search and examination of the entire application would cause a serious burden. Rather, a serious burden would arise if the application were restricted.

No serious burden is created for the Examiner by running a simultaneous computerized search of all of the polymorphisms in Table A. The single search may be run in conjunction with databases such as those available at <http://www.ncbi.nlm.nih>.

Based upon the foregoing, Applicants submit that the restriction requirement is improper and therefore must be withdrawn. To facilitate prosecution, however, Applicants have provisionally elected, with traverse, 25 polymorphisms from Table A for examination in claims 19-23 and 100 polymorphisms for examination in claim 18.

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in the documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account Number 50-1824, referencing docket number 16517.007. Applicants likewise authorize a charge to Deposit Account Number 50-1824 for any other fees related to the present application that are not otherwise provided for in the accompanying documents.

Should the Examiner have any questions regarding this application, the Examiner is encouraged to contact Applicants' undersigned representative at (202) 942-5000.

Respectfully submitted,

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**Marked Up Claims:**

18. (Amended) Computer readable medium having recorded thereon [at least 100 of the polymorphisms set forth in Table A] polymorphisms selected from the group consisting of Single Nucleotide Polymorphisms 466799, 471736, 459697, 459698, 459699, 459700, 459701, 445015, 459702, 459703, 445016, 445017, 461062, 447523, 461063, 447524, 447525, 461064, 461065, 447526, 461066, 450823, 450824, 450825, 450826, 428620, 450827, 462117, 450828, 462118, 428621, 428622, 428623, 450829, 462119, 428624, 428625, 428626, 450830, 450831, 450832, 450833, 448562, 424491, 424492, 424493, 424494, 424495, 424496, 424497, 448563, 448564, 424498, 424499, 448565, 461975, 424500, 424501, 424502, 424503, 448566, 448567, 448568, 448569, 448570, 424504, 424505, 424506, 424507, 424508, 424509, 424510, 424511, 448571, 424512, 424513, 424514, 424515, 448572, 426007, 426008, 426009, 426010, 449396, 462027, 449397, 449398, 426011, 426012, 449399, 449400, 462028, 449401, 462029, 449402, 426013, 426014, 426015, 426016, and 426017.

19. (Amended) A collection of non-identical nucleic acid molecules capable of detecting polymorphisms in an *Arabidopsis thaliana* mapping population, wherein said collection of non-identical nucleic acid molecules is capable of detecting [at least 25 distinct polymorphisms selected from the group consisting of Table A] polymorphisms selected from the group consisting of Single Nucleotide Polymorphisms 466799, 471736, 459697, 459698, 459699, 459700, 459701, 445015, 459702, 459703, 445016, 445017, 461062, 447523, 461063, 447524, 447525, 461064, 461065, 447526, 461066, 450823, 450824, 450825, and 450826.